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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,405	02/27/2004	Heon-Do Yun	041993-5364	4520
9629	7590	09/02/2005	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			CHIEN, LUCY P	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/787,405	<b>Applicant(s)</b> YUN ET AL.	
	<b>Examiner</b> Lucy P. Chien	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### **Election of Species**

Applicant's election without traverse of Species II drawn to a method for forming an alignment layer of the liquid crystal display device having a shifting of the alignment material dropping unit by distance  $h_1$  along a second direction perpendicular to the first direction shown in Figure 7, drawn to (Claims 1-7) readable thereon in the reply filed on August 15, 2005 is acknowledged.

Correction on Office Action Election/Restriction:

Spoke with Valerie P. Hayes on August 11, 2005 and added Specie was acknowledged.

Added **Specie V**: The specifics being an apparatus wherein the plurality of holes includes a first plurality of holes disposed along a first row and a second plurality holes disposed along a second parallel to the first row, each of adjacent ones of the first plurality of holes and each of adjacent ones of the second plurality of holes separated by a first interval  $d_1$  and each of adjacent ones of the first and second pluralities of the holes separated by a second interval  $d_2$  smaller than the first interval  $d_1$ . (Figure 10)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanuma et al (US 6111632) in view of Akahira (US 6471352).

Tanuma et al discloses (Column 16, Row 4-15) providing a substrate having a plurality of unit panels (Fig. 16) formed thereon, loading the substrate onto a stage (Figure 12 same embodiment as Figure 16) and forming an alignment layer on the substrate to have a uniform thickness.

Tanuma et al does not disclose selectively dropping ink onto a first one of the unit panel regions by a dropping unit.

Akahira discloses (figure 27C) selectively dropping ink onto a first one of the unit panel regions by a dropping unit (Figure 1, items 55 and Figure 3, nozzles 108), having a plurality of heads each of the heads having a plurality of holes arranged along a row at regularly-spaced interval distance (Figure 27C).

It would have been obvious to one skilled in the art to modify Tanuma et al's substrate onto a stage with plurality of unit panels to include Akahira's dropping unit motivated by the desire to improve the smoothness of the deposited layer. (Akahira, Column 1, Rows 25-30).

***Allowable Subject Matter***

**Claim 2-7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following statement indicate reason for allowance:

Tanuma does not disclose performing a first positioning of the alignment material dropping unit at a second side of the stage along a first direction, dropping a first alignment material onto the substrate along the first direction during the performing of the first and second positioning of the alignment material dropping unit, shifting the alignment material dropping unit by a distance  $h_1$  along a second direction perpendicular to the first direction, and dropping a second alignment material along the second direction.


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucy Chien  
Examiner  
Art Unit 2871  
LC

  
**ROBERT KIM**  
**SUPERVISORY PATENT EXAMINER**